IN THE CLAIMS

Please amend the claims as follows:

Claims 1-4 (Canceled).

Claim 5 (Currently Amended): ~~The interface apparatus according to Claim 1~~ An interface apparatus comprising:

image processing means for picking up images of an interior of an indoor space with a plurality of stereo cameras, and producing a distance image based on the picked up images within a visual field and an indoor coordinate system on a camera-by-camera basis;

positional-posture and arm-pointing recognition means for extracting a positional posture and arm pointing of a user from distance information from the plurality of stereo cameras; and

pointing-action recognition means for determining, when arm pointing by the user has been identified, whether or not the arm pointing is a pointing action from a pointing direction and a motion of the arm,

wherein the positional-posture and arm-pointing recognition means for extracting arm pointing recognizes [[a]] the pointing action in such a way that: the pointing-action recognition means divides three-dimensional distance information obtained from the plurality of stereo cameras into levels by 20 cm according to [[the]] an indoor coordinate system by a different-level extracting method; projects a dot sequence in each level onto a two-dimensional plane and then binarizes [[it]] the dot sequence into a two-dimensional binary image; labels [[the]] two-dimensional binary images on a level-to-level basis; determines

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[[the]] an overall center of gravity of [[the]] clusters; stacks [[the]] a center of gravity

determined in each two-dimensional plane in levels on object-to-object basis again to use as a

three-dimensional dot sequence; plots the center of gravity of each level along [[the]] a Z-

axis, in which eight levels ([[the]] an upper half of a body) from [[the]] an uppermost level

([[the]] a head) are plotted on [[the]] an X-Y plane; wherein when there is a large outlier

compared to the overall center of gravity, determines that an arm-pointing action has been

made; and determines [[the]] a direction of the body by calculating [[the]] image moments of

the two-dimensional binary images of the eight levels from the uppermost level, [[the]] an

image moment being a rectangle equivalent to the two-dimensional binary image, and

determining the vertical direction of [[the]] a long side of a level having an area within a

specified range and in which [[the]] a difference between the long side and [[the]] a short side

of the image moment is [[the]] a largest of [[the]] an acquired eight sets of data as the

direction of the body; when the arm-pointing action has been recognized, the pointing-action

recognition means determines [[the]] a direction of the arm pointing in such a way that: [[it]]

the pointing-action recognition means determines the direction of the arm pointing on the X-

Y plane by drawing a perpendicular bisector between the overall center of gravity and the

center of gravity of the two-dimensional binary image of a level of which the center of

gravity is farthest from the overall center of gravity and the overall center of gravity, erasing

the two-dimensional binary image in [[the]] a region corresponding to [[the]] a body of

[[the]] a person to leave only [[the]] an image of the arm; calculates the image moment of the

two-dimensional binary image of only the arm to determine the long side, the center of

gravity, [[the]] a position of [[the]] a distal end of the arm, and the overall center of gravity;

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and determines [[the]] a Z-direction of the arm pointing from [[the]] a stature, [[the]] a height

of eyes, and arm-length coefficient.

Claim 6 (Currently Amended): The interface apparatus according to Claim 5,

wherein [[the]] a lower limit of determination on arm pointing is set from [[the]] a head

height and [[the]] a height corresponding to [[the]] a sitting height, wherein false arm

pointing which is sensed lower than the lower limit is determined not to be arm pointing.

Claim 7 (Currently Amended): The interface apparatus according to Claim 6,

wherein false arm pointing which is sensed lower than the lower limit is [[the]] a case in

which the user stretches out his leg.

Claim 8 (Currently Amended): The interface apparatus according to Claim 5,

wherein when [[the]] a ratio of the long side of the image moment to the stature is less than a

given value, it is determined not to be arm pointing is not determined.

Claim 9 (Currently Amended): The interface apparatus according to Claim 8,

wherein when the ratio of the long side of the image moment to the stature is less than a

given value, slight arm pointing is determined comes under.

Claim 10 (Currently Amended): The interface apparatus according to Claim 5,

wherein when r1/r2 is smaller than or equal to a value set from the stature, it is determined

not to be arm pointing, where r1 is [[the]] a distance from an average center of gravity to

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[[the]] a distal end of the arm pointing and r2 is [[the]] a distance from the average center of gravity to [[the]] a base end of the arm pointing, arm pointing is not determined.

Claim 11 (Currently Amended): The interface apparatus according to Claim 10, wherein when r1/r2 is smaller than or equal to a value set from the stature, where r1 is the distance from an average center of gravity to the distal end of the arm pointing and r2 is the distance from the average center of gravity to the base end of the arm pointing, slight arm pointing is determined comes under.

Claim 12 (Currently Amended): The interface apparatus according to Claim 5, wherein [[the]] an area S of the image moment is determined from [[the]] a long side L1 and [[the]] a short side L2, and [[the]] a upper limit is set for the area S and [[the]] a lower limit is set for the long side L1, wherein, when the area S or the long side L1 is outside [[the]] a limit, it is determined not to be arm pointing is not determined.

Claim 13 (Currently Amended): The interface apparatus according to Claim 12, wherein when the area S or the long side L1 is outside the limit, it is determined that both arms are spread out is determined.

Claim 14 (Currently Amended): The interface apparatus according to Claim 5, wherein when [[the]] a ratio of [[the]] a distance between [[the]] a distal end of the arm pointing and an average center of gravity to [[the]] a distance between [[the]] a base end of

the arm pointing and the average center of gravity is greater than a set value, ~~it is determined~~

~~not to be~~ arm pointing is not determined.

Claim 15 (Currently Amended): The interface apparatus according to Claim 14,

wherein when the ratio of the distance between the distal end of the arm pointing and [[an]]

the average center of gravity to the distance between the base end of the arm pointing and the

average center of gravity is greater than a set value, ~~it is determined that~~ both arms ~~are~~ spread

out is determined.

Claim 16 (Currently Amended): The interface apparatus according to Claim 5,

wherein when [[the]] an average center of gravity of a partner is found within a specified

radius around [[the]] a distal end of the ~~user's~~ user arm pointing, ~~it is determined not to be~~

arm pointing is not determined.

Claim 17 (Canceled).

Claim 18 (Currently Amended): ~~The interface apparatus according to Claim 17,~~

~~wherein,~~ An interface apparatus comprising:

image processing means for picking up images of an interior of an indoor space with a

plurality of stereo cameras, and producing a distance image based on the picked up images

within a visual field and an indoor coordinate system on a camera-by-camera basis;

positional-posture and arm-pointing recognition means for extracting a positional

posture and arm pointing of a user from distance information from the plurality of stereo

cameras; and

pointing-action recognition means for determining, when arm pointing by the user has

been identified, whether or not the arm pointing is a pointing action from a pointing direction

and a motion of the arm,

wherein:

a specified area in the indoor space is registered in advance,

when a user is present in the specified area, arm pointing for the specified area

is identified, and

with [[the]] a periphery of [[the]] a head part on a nursing bed being set as the

specified area, when a user is present in the specified area, arm pointing for the

specified area is identified.

Claim 19 (Currently Amended): The interface apparatus according to Claim 18,

wherein, with the periphery of the head part on a nursing bed being set as the specified area,

when no user is present in the specified area, it is determined whether the user is in a

standing, sitting, or lying posture is determined and then arm pointing is identified for the

respective postures.